

wise sharper outlines as to venation and reticulations will usually be secured if the lower surface of the leaf be selected in preference to the upper. In selecting leaves for outlining care must be taken not to injure the specimen, especially if it is a type. Wrinkled or very brittle leaves should never be selected, and care should be taken to avoid those that are so mounted that they might be broken if rubbed too hard.

About eight years' use of these carbon rubbings or impressions has thoroughly convinced me of their practical utility in herbarium work. Several European botanists to whom I explained the simple method of making the carbon rubbings were at once impressed with the utility and advantages of the method and have adopted it in their regular herbarium work. The advantages of the method are so great, the technique so simple, and the preparation of the impressions or rubbings so rapid, it is believed that rapidity, accuracy, and ease in certain lines of routine herbarium work will be greatly enhanced by the general utilization of this simple method. The illustrations accompanying this paper are reproductions of carbon rubbings or impressions, not at all retouched, prepared by the method described above.

WASHINGTON, D. C.,

July 15, 1915.

REVIEWS

Cowles and Coulter's Spring Flora*

The purpose of this flora, as stated by the authors, is "to provide, especially for young people in high schools, a ready means for the identification of the more common and widespread spring flowering plants." Descriptions are given of 380 plants which flower before July in the North Central and Eastern States and there is a single comprehensive key to the various species treated, based on such characteristics as are readily observable in spring. The work is illustrated by nearly 150 drawings.

As an introductory guide for the identification of the spring flowering plants in the area covered it is difficult to see how this little book can be improved upon. One notes with some surprise,

* Cowles, H. C., and Coulter, J. G. A Spring Flora for High Schools. Pp. 1-144. American Book Co. 1915.

to be sure, the omission of the Orchidaceae, of certain species like *Castalia odorata* and *Castanea dentata*, and of all species of *Rubus* except *R. canadensis*. But, on the whole, speaking from the standpoint of the eastern botanist, the judgment of the authors in the selection of the species to be included is to be highly commended. Some idea as to the usefulness of the book to the eastern student may be deduced from the fact that out of a list of about 150 common spring flowering plants which the reviewer has been accustomed to give his elementary field classes, there are scarcely a dozen which are not to be found in this flora. A few of the species, however, such as *Podophyllum peltatum* and *Claytonia virginica*, which are cited as "common," are certainly not common in southern New England, and of course many species are described which are not found there at all. In this connection the question might be raised whether it might not be worth while, even in a work of this sort, to outline briefly the ranges of species which are more or less restricted in their distribution, as, for example, *Asimina triloba* and *Dodecatheon Meadia*.

It may perhaps be objected by some that in the analytical key too little emphasis has been laid on family relationships. These, however, are clearly brought out in the descriptive part of the text, and to the mind of the reviewer their omission from the key is more than offset by the increased simplicity and lucidness thereby made possible. For, after all, not only to the beginner but to the more advanced student as well, a key primarily is but a means to a definite end, namely, the identification of the specimen in hand, and upon the ease with which such a determination can be made depends very largely its value.

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PROCEEDINGS OF THE CLUB

APRIL 13, 1915

The meeting of April 13, 1915, was held at the American Museum of Natural History at 8:15 P.M., President Harper presiding. Sixteen persons were present.